

**TECHNICAL REVIEW AND EVALUATION
FOR
OPERATING AIR QUALITY PERMIT #47280**

PAGE ELECTRIC UTILITY

Powell Substation Diesel Project

I. INTRODUCTION

This Class II synthetic minor renewal permit is for the operation of the Page Electric Utility—Powell Substation Diesel Project located in Page, Coconino County, Arizona. This is a renewal of Air Quality Permit No. 1001615.

Company Information

Facility Name: Page Electric Utility—Powell Substation Diesel Project

Mailing Address: Page Electric Utility
19 Poplar Street
P.O. Box 1955
Page, AZ 86040

Facility Location: Powell Substation Diesel Project
Electric Generating Plant
Haul Road Powell Substation
Page, AZ 86040

II. FACILITY DESCRIPTION

A. Equipment

Page Electric Utility owns 6 diesel fired generators and 6 urea scrubbers at the plant consisting of the following equipment:

Generators (6) - Caterpillar XQ2000 Power Modules with low emissions version of 3516B diesel engine - 2374 horsepower

Urea Selective Catalytic Reduction Scrubbers - Siemens SINO_x Catalytic Converter

B. Process

Page Electric Utility burns diesel fuel # 2 in their generators which produce commercial electric power. The exhaust from each generator stack is routed through a Siemens Selective Catalytic Reduction scrubber to reduce NO_x emissions.

Page Electric Utility may operate 24 hours per day, up to a maximum of 1,950 hours per year per generator.

The term operates/operational is referenced to mean that the generator(s) are working/running and that power is being produced and put on the grid.

III. LEARNING SITES IN VICINITY

In accordance with ADEQ's Environmental Permits and Approvals Near Learning Sites Policy, the Department conducted an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools at the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

There are six impacted learning sites within a two mile radius of Page Electric Utility-Powell Substation Diesel Project. The impacted schools are Lake Powell Academy, Page High School, Desert View Elementary School, Page Middle School, Coconino Community College and Shepherd of the Desert Preschool.

The Department has reviewed the emission sources at the facility and has determined that the operation of the facility will not adversely affect the learning sites.

IV. COMPLIANCE HISTORY

A Notice of Opportunity to Correct was issued to Page Electric Utility for a total of two permit violations based on the March 31, 2008, inspection of the facility. The list of the violations is as follows:

1. Non-compliance with **Permit 1001615 - Attachment B, Condition III.A.2, which reads, "The permittee shall conduct an opacity check for each generator stack at least quarterly when the generator is in operation."** The inspector discovered that no opacity observations had been performed and that no records had been kept of the opacity observations.
2. Non-compliance with **Permit 1001615 – Attachment A, Condition VII. A., which reads, "The Permittee shall submit a compliance certification to the Director semiannually, no later than May 15th of the current year which describes the compliance status of the source between October 1st of the previous year and March 31st of the current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year."** The inspector discovered that no compliance certifications had been sent to ADEQ for several years.

Conditions for documenting compliance with the above violations include providing a written response describing the corrective actions that have been taken to resolve the violations, along with appropriate documentation. Appropriate documentation included: logs and any other document(s) necessary to establish that the deficiencies had been resolved. These conditions were to be met by Page Electric Utility within thirty (30) days. The deadline for all of the above mentioned conditions to be met was May 30, 2008. All of the conditions listed above were met by May 13, 2008, and the case was closed.

There are no other air quality cases or alleged violations that appear to be associated with this facility.

V. EMISSIONS

Pollutant	Potential-To-Emit With Controls (tpy)
PM ₁₀	9.72
SO ₂	89.88
NO _x	13.16
VOC	6.81
CO	24.77
HAPs	0.40

Emissions include a voluntary 1,950 hour per year limitation on all internal combustion engines.

VI. APPLICABLE REGULATIONS

The Permittee has identified the applicable regulations that apply to each unit in its permit application. The following table summarizes the findings of the Department with respect to the regulations that are applicable to each emissions unit. Previous permit conditions are discussed under Section VII of this technical review document.

Applicable Regulations

Unit ID	Year of Manufacture	Control Equipment	Applicable Regulations	Verification
Internal Combustion Engines	5/2001	Urea Scrubber	<u>A.A.C.</u> R18-2-719.B R18-2-719.C.1 R18-2-719.E R18-2-719.F R18-2-719.H R18-2-719.I R18-2-719.J	Since all of the generators were manufactured before 2006, no NSPS requirements apply. The engines are not affected sources which are subject to 40 CFR 63 Subpart ZZZZ. They are therefore subject to A.A.C. R18-2-719, standards of performance for existing stationary rotating machinery.

Unit ID	Year of Manufacture	Control Equipment	Applicable Regulations	Verification
Fugitive Dust Sources	N/A	Water and other reasonable precautions	<u>A.A.C.</u> R18-2-2-604.A R18-2-2-604.B R18-2-2-605.A R18-2-2-605.B R18-2-2-606 R18-2-2-607.A R18-2-2-607.B R18-2-2-614 R18-2-2-702.B	These standards are applicable to all fugitive dust sources.
Mobile Sources	N/A	Water Sprays/Water Truck for dust control	<u>A.A.C.</u> Article 8	This Article is applicable to off-road mobile sources, which either move while emitting air pollutants or are frequently moved during the course of their utilization.
Spray Painting Operations	N/A	N/A	<u>A.A.C.</u> R18-2-727 SIP R9-3-527.C	This standard is applicable to any spray-painting operation.
Demolition/ Renovation Operations	N/A	N/A	<u>A.A.C.</u> R18-2-1101.A.8	This standard is applicable to any asbestos related demolition or renovation operations.
Abrasive Blasting	N/A	N/A	<u>A.A.C.</u> R18-2-726 R18-2-702.B	This standard is applicable to any activity related to abrasive blasting operations.

VII. PREVIOUS PERMIT CONDITIONS

A. Previous Permits

The following table lists the previous permits that have been issued to Page Electric Utility.

Previous Permits

Date Permit Issued	Permit #	Application Basis
June 12, 2002	1001615	Operating Permit

B. Previous Permit Conditions

The following are discussions on the previous permits that have been issued to the source.

CLASS II, NON-TITLE V OPERATING PERMIT NO. 1001615

This operating permit was issued to Page Electric Utility on June 12, 2002 to operate an Electric Generating Plant.

OP #1001615, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Att. A.	X				General provisions - Revised to represent most recent language
Att.B.I.	X				State Implementation Plan-Revised to represent most recent language
Att B.II.A		X			Operational Limitations-Retained.
Att B.II.B		X			Fuel Limitations-Retained.
Att B.II.C		X			Periodic Monitoring & Record Keeping Requirements-Retained.
Att B.II.D		X			Maintenance Requirement-Retained.
Att B.III.A		X			Generator-Particulate Matter Emissions-Requirements have been retained.
Att B.III.B	X				Generator-Nitrogen Oxide Emissions-Revised to include a limit for NO _x emissions.

OP #1001615, References	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Att B.III.C		X			Generator-Carbon Monoxide Emissions-Retained.
Att C		X			Equipment List-Retained

VIII. MONITORING , RECORDKEEPING AND REPORTING REQUIREMENTS

A. Facility Wide Limitations

1. Record Keeping Requirements

- The Permittee must maintain on-site, records of the manufacturer's specifications for all equipment utilized at the facility.
- All records, analyses, and reports must be retained for a minimum of five years from the date of generation. The most recent two years of data must be kept on-site.

2. Reporting Requirements

The Permittee is required to submit reports of all monitoring activities required in Attachment “B” along with the compliance certifications required by Section VII of Attachment “A”.

B. Internal Combustion Engines

1. Operating Limitations

Monitoring and Recordkeeping

The Permittee must keep records of monthly totals of the hours of operation of each internal combustion engine. At the end of each month, the Permittee is required to calculate and record a rolling 12-month total of the hours of operation.

2. Opacity

- The Permittee must keep records of fuel supplier certifications. The certification must contain information regarding the name of fuel supplier and lower heating value of the fuel.
- A certified EPA Reference Method 9 observer must conduct a monthly survey of visible emissions emanating from the stack of the IC engines if in operation. If the opacity of the emissions observed appears to exceed

the standard, the observer is required to conduct a certified EPA Reference Method 9 observation. The Permittee must keep records of the initial survey and any EPA Reference Method 9 observations performed. These records are to include the emission point observed, name of the observer, date and time of the observation, and the results of the observation.

- c. If the observation results in a Method 9 opacity reading in excess of 40 percent, the Permittee must report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity below 40 percent. The Permittee also must keep a record of the corrective action performed.

3. Sulfur Dioxide

- a. The Permittee must keep daily records of the sulfur content of the fuel being fired in the machine. The Permittee is required to keep records of the fuel supplier certifications to demonstrate compliance with the sulfur fuel limit specified in Condition II.C.1 of Attachment “B”. The certification must contain the sulfur content of the fuel and the method used to determine the sulfur content of the fuel.
- b. The Permittee must report to the Director any daily period during which the sulfur content of the fuel being fired in the machine exceeds 0.8 percent.

4. Nitrogen Oxide (NO_x) Emissions

- a. The Permittee must monitor and record the pressure differential of the gas stream and the liquid flow rate through the urea scrubber once each week when the internal combustion engines are operational. For each weekly reading, the Permittee is to record the pressure differential, liquid flow rate, name of the observer, the equipment number of the scrubber, and the date and time of the reading and any corrective action if necessary.
- b. During the performance test on the generators, the Permittee must record the average gas stream pressure differential across the urea scrubber, as well as the scrubbing liquid flow rate through the scrubber.

C. Fugitive Dust Requirements

Opacity

The Permittee must maintain records of the dates on which any of the activities listed in Conditions III.B.1.c.i through III.B.1.c.viii of Attachment “B” are performed and the control measures that were adopted.

IX. LIST OF ABBREVIATIONS

A.A.C. Arizona Administrative Code

ADEQArizona Department of Environmental Quality
 CO..... Carbon Monoxide
 ft..... Feet
 hpHorsepower
 hr..... Hour
 IC Internal Combustion
 lb Pound
 NO_x Nitrogen Oxide
 PM.....Particulate Matter
 PM₁₀..... Particulate Matter Nominally less than 10 Micrometers
 PTEPotential-to-Emit
 SO₂..... Sulfur Dioxide
 TPY..... Tons per Year
 VOC..... Volatile Organic Compound
 yr..... Year